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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,542	08/14/2003	Jun Ishii	393032040000	1959

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EXAMINER

QIN, JIANCHUN

ART UNIT PAPER NUMBER

2837

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,542

Applicant(s)

ISHII ET AL.

Examiner

Jianchun Qin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-33 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 15 is/are rejected.
- 7) ☒ Claim(s) 3, 6-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Shiiya (U.S. Pub. No. 20030131717).

With respect to claim 1:

Shiiya teaches a recorder for recording a performance represented by pieces of first sort of music data in ensemble with a playback of a music passage represented by pieces of second sort of music data different in format from said first sort of music data (see Abstract), comprising: an interface connected to a data source of said pieces of said first sort of music data, another data source of said pieces of said second sort of music data and a destination to which a music data file is supplied (sections 0021, 0037 and 0109); and a data processing unit connected to said interface, extracting pieces of reference characteristic data representative of particular features of an audio waveform expressing said music passage from said pieces of said second sort of music data, and forming said pieces of said first sort of music data, said pieces of reference

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characteristic data and pieces of time data representative of timing to reproduce tones produced in said performance into said music data file for supplying said music data file through said interface to said destination (sections 0027, 0036 and 0037).

With respect to claim 2:

Shiyya further teaches: said data processor extracts pieces of reference correlation data representative of variation of certain frequency components from said pieces of second sort of music data as said pieces of said reference characteristic data, and said pieces of reference correlation data are used in a correlation analysis between said music passage and another music passage (sections 0053, 0054 and 0062).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiyya (U.S. Pub. No. 20030131717) in view of Furukawa (U.S. Pub. No. 20030177890).

With respect to claim 4:

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Shiia teaches a recorder that includes the subject matter discussed above.

Shiia does not mention explicitly: the format for said piece of said first sort of music data is defined in MIDI, and the format for said pieces of said second sort of music data is defined in Red Book for compact discs.

Furukawa teaches an audio system for reproducing plural parts of music in perfect ensemble in which the format for the piece of a first sort of music data is defined in MIDI, and the format for the pieces of a second sort of music data is defined in Red Book for compact discs (section 0019).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Furukawa in the invention of Shiia in order to configure the recorder in such a way that the pieces of music data are output from the second data source as the audio music data codes and the other pieces of music data are output from the first data source as the MIDI music data codes, as a common practice of standards for defining different music data types (Furukawa, sections 0019 and 0120).

With respect to claim 5:

Shiia further teaches: said data processor extracts pieces of reference correlation data representative of variation of certain frequency components from said pieces of second sort of music data as said pieces of said reference characteristic data, and said pieces of reference correlation data are used in a correlation analysis between said music passage and another music passage (sections 0053, 0054 and 0062).

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5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiya (U.S. Pub. No. 20030131717) in view of Furukawa et al. (U.S. Pub. No. 20030172798).

Shiiya teaches a recorder that includes the subject matter discussed above.

Shiiya does not mention explicitly: an automatic player piano serves as said data source so that said pieces of said first sort of music data are supplied to said interface while a user is fingering on said automatic player piano, and a compact disc loaded into a compact disc driver serves as said another data source so that said piece of said second sort of data are transferred from said compact disc to said interface while said user is fingering on said automatic player piano.

Furukawa et al. teach a record and method for reproducing a piece of music and an ensemble system for an ensemble represented by plural sorts of music data codes differently formatted, including: an automatic player piano which serves as said data source so that said pieces of said first sort of music data are supplied to said interface while a user is fingering on said automatic player piano, and a compact disc loaded into a compact disc driver serves as said another data source so that said piece of said second sort of data are transferred from said compact disc to said interface while said user is fingering on said automatic player piano (sections 0041 and 0049).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Furukawa et al. in the invention of Shiiya in order to reproduce synchronized piano tones for an ensemble between an automatic player piano and a playback of a music passage (Shiiya, section 0003; Furukawa et al., Abstract and section 0049).

Allowable Subject Matter

6. Claims 3 and 6-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 16-33 are allowed.

Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 3 is the inclusion of the limitation that said music passage occupies a head portion of a piece of music, and said data processing unit further stores a time at which a certain piece of reference correlation data was produced from a piece of said second sort of music data during the performance of said head portion into said music data file. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 6 and 7 is the inclusion of the limitation that said music passage occupies a head portion of a piece of music, and said data processing unit stores said pieces of reference correlation data and a time at which a certain piece of reference correlation data was produced during said performance of said head portion in said music data file in the form of system exclusive event code. It is this limitation found in each of the claims, as it is claimed in the combination that has not

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been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 8-10 is the inclusion of the limitation that said certain piece of said reference correlation data at said head portion and said another certain piece of said reference correlation data at said end portion occupy a head of the series of the pieces of said second sort of music data and an end of said series of said pieces of said second sort of music data so that the length of said music passage is determined on the basis of said times. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 11 and 12 is the inclusion of the limitation that said data processing unit extracts abrupt changes of an attribute of sound from said pieces of said second sort of music data as said pieces of said reference characteristic data, and said abrupt changes are stored in said music data file together with other pieces of said time data representative of timing at which said abrupt changes take place. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 13 and 14 is the inclusion of the limitation that said data processing unit extracts abrupt changes of an attribute of sound from said pieces of said second sort of music data as said pieces of said reference

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characteristic data, and said abrupt changes are stored in said music data file together with other pieces of said time data representative of timing at which said abrupt changes take place in the form of system exclusive event code and in the form of time data code. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 16-30 is the inclusion of the limitation of a data processing unit connected to said interface, extracting pieces of objective characteristic data representative of particular features of another audio waveform expressing said music passage from said pieces of second sort of music data, comparing said pieces of objective characteristic data with said pieces of reference objective characteristic data so as to find time differences between said particular features of said audio waveform and said particular features of said another audio waveform, rescheduling timing to supply said pieces of said first sort of music data to said sound source by changing said pieces of time data, and supplying said pieces of said second sort of music data to said another sound source and said pieces of said first sort of music data to said sound source at the timing represented by the pieces of time data already changed. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 31-33 is the inclusion of the limitation of a data processing unit connected to said interface and communicating with

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said data source, said another and said source of music data file for said preliminary recording and with said source of music data file, said sound source and said another sound source for said synchronous playback, in which said data processing unit extracts said pieces of reference characteristic data from said pieces of said second sort of music data, and forms said pieces of said first sort of music data, said pieces of reference characteristic data and said pieces of time data into said music data file for supplying said music data file through said interface to said source of music data file, and in which said data processing unit extracts pieces of objective characteristic data representative of particular features of another audio waveform expressing said music passage from said other pieces of second sort of music data, compares said pieces of objective characteristic data with said pieces of reference objective characteristic data so as to find time differences between said particular features of said audio waveform and said particular features of said another audio wavtform, reschedules timing to supply said pieces of said first sort of music data to said first sound source by changing said pieces of time data, and supplies said other pieces of said second sort of music data to said another sound source and said pieces of said first sort of music data to said sound source at the timing represented by the pieces of time data already changed. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art Citations

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Furukawa (U. S. Pub. No. 20030101862) is entitled "Music recorder and music player for ensemble on the basis of different sorts of music data".

2) Hagiwara et al. (U. S. Pub. No. 20020178898) is entitled "Musical performance control method, musical performance control apparatus and musical tone generating apparatus".

3) Uehara et al. (U. S. Pub. No. 20030133700) is entitled "Multimedia platform for recording and/or reproducing music synchronously with visual images".

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8:00am - 5:00pm.

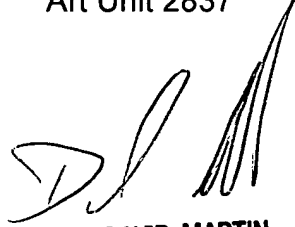
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JQ
May 23, 2005

Jianchun Qin
Examiner
Art Unit 2837



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